

Inventory and Monitoring (I&M) Initiative FY 2012 Annual Report and FY 2013 Work Plan

1. Introduction

1.1. National I&M Initiative Mission, Vision, Goals and Objectives

Mission: The Refuge System I&M Initiative works with others to assess the status of refuge lands, waters, and biota, and supports achievement of conservation objectives at multiple spatial scales.

Vision:

A nationally coordinated inventory and monitoring (I&M) initiative for the National Wildlife Refuge System (Refuge System) will generate information essential to ensure our ongoing contributions to the management and conservation of the nation's wildlife and plant resources in the face of climate change and other environmental stressors. Collaboration with other U.S. Fish and Wildlife Service (Service) divisions as well as State agencies, other Federal agencies, and private partners will lead to the effective integration of inventory and monitoring data needed to advance conservation at landscape scales.

I&M will document the status of, assess the condition of, and detect changes in the Refuge System's diverse biotic communities, as well as physical resources including water, air and soils, and ecological processes in order to support science-based conservation planning and management at all spatial scales. The information generated will be scientifically credible, relevant, and valued by Refuge System managers, the Service, its partners in the conservation community, and the public. I&M protocols and data standards provide the basis for consistent data collection and data management throughout the Refuge System, ensuring utility, timeliness, availability, and long-term integrity of the information collected.

Goals:

1. Meet the Refuge System's legal mandate to monitor the status and trends of wildlife and plant populations on refuges, and collect and manage information needed to maintain biological diversity, ecological integrity, and environmental health, and preserve the character of designated wilderness within the System.
2. Advance wildlife conservation at the refuge scale and broader landscape scales in an adaptive management cycle by providing scientific information that supports conservation planning and design, guides learning through evaluation of conservation delivery, and offers a basis for assumption-driven research.
3. Implement monitoring of wildlife and plants; physical resources; and ecological processes to reduce uncertainty related to impacts of climate change and other stressors; provide early warning of changing conditions; and guide development of management actions that facilitate adaptation to climate change.
4. Synthesize, interpret, and report on the condition of wildlife, plants, and habitats conserved by the Refuge System in a manner that documents the contributions of the Refuge System within the context of the larger conservation estate and clearly communicates its value to the American public.

5. Increase effectiveness and save money by coordinating and integrating monitoring of natural resources at landscape scales through collaboration with other Service programs, other federal I&M programs, other government agencies, and organizations.

Purpose:

The primary purpose of I&M is to collect and synthesize information that supports management at multiple geographic scales and informs management decisions at all levels in coordination and collaboration with the eight Regional I&M staff. Implementation of I&M will streamline and enhance the Refuge System's scientific capacity by ensuring that survey efforts address Service priorities, support refuge management, and through the standardization of scientific protocols providing consistency of methodologies that facilitates collaboration and integration with other agencies, states, and the scientific communities. We develop and administer a centralized data storage and retrieval system that streamlines data management, in accordance with the data standards of the federal government, the agency, and the Department of Interior. The data will be readily available to field station employees, other agencies, the academic community, and the general public when appropriate.

1.2. Organization

The I&M initiative is directed by the Natural Resource Program Center (Center) Chief and directly supports the science-based management of the Nation's 560 National Wildlife Refuges and 38 Wetland Management Districts that manage more than 150 million acres of public lands and waters across the United States in all 50 States, several Territories, and the marine environment. The Center is comprised of four Branches: I&M, Water Resources, Human Dimensions, and Branch of Air Quality and is located in Fort Collins in order to leverage resources with key partners and ensure sound stewardship of public funds.

The Center staff works closely with the regional I&M staffs to ensure that science is used to inform adaptation strategies to climate change and other environmental stressors at the local, regional, landscape, and national level. We assist local managers through the development of science-based decision support tools along with field and analytical support necessary to inform the production of the Comprehensive Conservation Plans (CCPs) and Habitat Management Plans (HMPs). Additionally, by standardizing protocols, sampling designs, and data management and working with partners, we will be able to aggregate local data to inform regional, landscape and national assessments.

2. Staffing – FY 2012

The I&M Branch of the Natural Resource Program Center (Center) is comprised of nine FTEs. The I&M Branch includes a National I&M Manager, National Data Manager, Supervising Ecologist, three GIS Specialists, and three Ecologist/Biologists.

The regional I&M staff are located both at the regional offices and locally in networks or zones. In general, each Region has an I&M Coordinator and a Data Manager. Additionally, six regions have deployed staff positions in a network or zone system. A general summary of staffing structure by Region is presented in Table 1.

Table 1. Staff funded by I&M summarized by Region for FY 2012.

Reg #	Reg. I&M Coord.	Reg. DM	Field Station or Reg. I&M Biologist	Reg. Biomet.	Hydro-logic Staff	Zones (#)	Zone Biologist	Zone DM	Zone GIS	Zone Field Techs	Zone Seasonal Staff
1	1	1	0	0	0	3	4	0	0	0	0
2	1	1	0	0	0	7	4	0	0	2	12
3	1	1	3	0	4	3	3	0	0	0	1
4	1	1	2	0	0	2	8	1	0	0	0
5	1	1	1.5*	0	0.5*	0	0	0	0	0	22
6	1	2	0	0	0	3	3	0	1	0	49
7	1	2	4*	2*	0	2	0	0	0	0	0
8	1	1	0.5**	0	2	4	2	0	1	0	2

*Some of these staff have other duties.

**NRLT partially funded by I&M

3. Budget Summary – FY 2012

In FY 2012, \$20 million was appropriated for NWRS I&M from the overall Climate Change funding. The FY 2012 Appropriation directed that all lines were subject to a 0.16 percent across-the-board rescission. This resulted in a \$32,010 reduction to I&M and left a balance of \$19,967,990 to be allocated. Each region received \$1,936,895 with NRPC receiving \$4,472,830. The initial appropriation was focused largely on building capacity in terms of permanent employees to both initiate and sustain the I&M effort and on IT investments for data management and storage.

A general summary of the allocation of I&M funds is presented in Table 2.

Table 2. Accounting of FY 2012 I&M Initiative expenditures and carry-over Funds summarized by Region and for NRPC I&M. Amounts are rounded to the nearest dollar.

Item	NRPC (\$)	R1 (\$)	R2 (\$)	R3 (\$)	R4 (\$)	R5 (\$)	R6 (\$)	R7 (\$)	R8 (\$)
Salaries	1,661,798	820,000	769,620	978,891	648,465	723,745	650,013	812,827	697,140
Personnel (Non Salary)	4,977	4,500	0	0	236,584	0	410,812	292,341	0
PCS Moves	53,922	0	0	0	65,777	45,594	0	0	0
Travel	109,674	44,081	48,482	71,658	23,283	26,043	67,272	50,514	26,672
IT Investments	779,236	115,000	32,089	0	13,098	2,314	12,523	5,305	
Data Acquisition & Contracts	1,260,541	883,943	860,138	784,257	386,004	401,099	581,103	752,323	990,953
Admin. & Operations	42,440	68,567	103,926	\$85,237	191,172	226,305	215,172	23,585	141,241
Obligated/Carry Over	0	804	122,640	16,851	375,512	511,795	0	92,000	80,889
Total Cost (\$)	3,912,588	1,936,895	1,936,895	1,936,894	1,936,895	1,936,895	1,936,895	2,028,895	1,936,895

4. Summary of Accomplishments – FY 2012

The refuge Natural Resource Leadership Team in the regions identified five priority areas for FY12 activities that will best inform long-term strategies for managing at the landscape scale but will also provide products directly relevant to refuge management decisions. The Center took the lead in implementing the initial phase of these initiatives laying much of the necessary groundwork for full-scale implementation:

- **Abiotic Inventory:** We addressed the abiotic recommendations generated by the *Fulfilling The Promise Baseline Inventory Team WH8.1*. These recommendations have largely been fulfilled and data at the appropriate spatial resolution is now available to local managers for use in management planning.
- **Phenology:** Monitoring how the timing of seasonal events provides information on spatial and temporal ecosystem dynamics that can help identify effects from climate change and other stressors. We identified that the USA-NPN data information system will serve our basic data storage needs and are providing tools to assist refuge staff with data import and export. We worked with USA-NPN to develop an FWS web portal to facilitate refuge data input and output in addition to serve as a communication tool to refuge staff and visitors. Full implementation of the web page is targeted for FY13, but the draft page can be accessed at: www.USANPN.org/FWS.
- **Endangered Species Act:** We created a baseline list of endangered, threatened, candidate, and delisted/monitored species on all units of the NWRs as the first step in assessing current status of each population of endangered, threatened, candidate, and delisted/monitored species on refuge lands. We expect that the data will be released to refuge staff for validation during the first quarter of FY13.
- **Water Quantity:** Water Resources staff created objectives for coordinated monitoring of water quantity; provide data for water rights acquisition; provide status and trends for water quantity and timing at a station/site within a watershed context.
- **Water Quality:** Water Resources staff have begun to identify and standardize existing protocols that could be used across the Refuge System. They are using the information from the ongoing Water Resource Inventories and Assessments (WRIA) to identify common monitoring activities and needs across the Refuge System.

A detailed summary of national and regional accomplishments by I&M 7-Year Plan Focus Area is presented in Table 3, along with major tasks, products, and projects expected to be funded in the following year. The 7-Year Plan is a work in progress at the beginning of FY13 and is expected to be finalized in the second quarter of FY13 (i.e., specific language for some tasks may change). National and regional activities for national priority tasks are summarized at the top of Table 3, followed by Region-specific priority tasks.

Table 3. Detailed summary of National I&M accomplishments for FY 2012 and projects to be initiated in FY 2013 by 7-Year Plan focus groups. AD – Abiotic Data, AQB – Air Quality Biomonitoring, BBI – Baseline Biotic Inventories, BIM – Bird Inventory and Monitoring, DM – Data Management, EIP – Ecological Information Planning, ESARR – Endangered Species Act Refuge Reporting, FM – Fire Monitoring, ISIM – Invasive Species Inventory and Monitoring, MM – Marine Monitoring, PM – Phenological Monitoring, RCA – Refuge Conditions Assessment, RRP – Regional Refuge Portfolio, SLRM – Sea Level Rise Modeling, SSM – Surrogate Species Monitoring, SD – System Development, VHM - Vegetation and Habitat Mapping, WRIM – Water Resources Inventory and Monitoring, WCM – Wilderness Character Monitoring, WH – Wildlife Health

7-Year Plan Task	Task Description	FY 2012 Accomplishments	FY 2013 Work Plan
National I&M Priorities			
EIP 1.1	I&M Policy	<ul style="list-style-type: none"> Prepared Inventory and Monitoring Policy and Survey Protocol Handbook for Directorate approval. 	<ul style="list-style-type: none"> I&M Team will facilitate approval of the policy and begin implementation.
EIP 1.2 EIP 1.3 EIP 1.4	Inventory and Monitoring Plans (IMPs)	<ul style="list-style-type: none"> Defined the minimum requirements for an IMP, piloted the new IMP process on 3 refuges: Region 2 = 1 station and Region 3 = 2 stations IMP process initiated at R1 on 15 stations. 	<ul style="list-style-type: none"> All regions will continue to assist refuges with prioritizing resource management objectives in advance of creating an IMP. Initiate IMPs on 10% of the stations. The following regions expect to initiate IMPs: Region1 = 35; R2 = 8; R3 = 5; R4 = 4; R5 = 2; R6 = 6; and R8 = 1, for a total of 59 IMPs. This task requires coordination with SSM 1.1.
EIP 3.1 EIP 3.2	Development of protocols	<ul style="list-style-type: none"> Prepared the Survey Protocol Handbook for Director's approval. Piloted the framework and process with marshbird, landbird and bee pollinator protocols. <hr/> <p>Cooperators: FWS Pollinator Group, Migratory Birds, USGS, PIF, USDA,</p>	<ul style="list-style-type: none"> The I&M Team will finalize the Survey Protocol Handbook. The marshbird and landbird protocols will be completed, posted in ServCat and available for site-specific application.
EIP 4.1	Collaboration Refuge Planning	<ul style="list-style-type: none"> Worked with Refuge Planning to organize a joint I&M-Planning meeting in December 2012. 	<ul style="list-style-type: none"> Attend the I&M-Planning joint meeting and identify at least one area where could better inform the next round of CCPs.
WRIM 1.1 WRIM 1.2 WRIM 1.3 WRIM 1.4 WRIM 3.1	Development and implementation of WRIA information system	<ul style="list-style-type: none"> Continued development and initiated a user acceptance team to test the WRIA information system. <hr/> <p>Cooperators: ECOS</p>	<ul style="list-style-type: none"> Water Team will develop a guidance document for consistent WRIA implementation. Enter data into the WRIA for at least two refuges per region. Refuges still to be determined. Complete integration of WRIA with ServCat. Initiate integration of WRIA with CAP data information system.
WRIM 2.2	Evaluation of HGMs	<ul style="list-style-type: none"> Identified and prioritized refuges that would benefit from an HGM 	<ul style="list-style-type: none"> Water Team will identify a strategy to improve in-house capacity to conduct "wetland reviews".
WRIM 1.6	WRIA completion	<ul style="list-style-type: none"> Completed a total of 17 WRIAs in the following regions: Region 1 = 2, Region 2 = 7, Region 3 = 4, Region 4 = 1, Region 5 = 2, Region 6 = 2 	<ul style="list-style-type: none"> Complete a total of 14 WRIAs in the following regions: Region 1 = 5, Region 2 = 4, Region 3 = 2, Region 4 = 1, Region 5 = 1, Region 6 = 2, Region 7 = 1, Region 8 = 1.

7-Year Plan Task	Task Description	FY 2012 Accomplishments	FY 2013 Work Plan
National I&M Priorities			
WRIM 4.1 WRIM 4.5	Coordinated water quality and quantity effort	<ul style="list-style-type: none"> Initiated a pilot monitoring project for water quality and quantity in each region. 	<ul style="list-style-type: none"> The Water Team will identify national water monitoring objectives Identify national-level water monitoring protocols for implementation. Water Team will develop recommendations for a centralized water data management system.
SD 1.1 SD 2.1 SD 2.2 SD 3.1	Development and implementation of ServCat infrastructure.	<ul style="list-style-type: none"> Created training documents, videos, and webinars. Conducted training and assisted with record creation as requested. <hr/> Cooperators: NCTC Library, ECOS	<ul style="list-style-type: none"> Deliver two training sessions on ServCat. Maintain IT service agreement and install updates as needed. Evaluate user feedback.
SD 4.1 SD 5.1 SD 5.2 SD 6.1	Development and Implementation of PRIMR	<ul style="list-style-type: none"> Identified key fields and domains. Initiated development of centralized PRIMR. <hr/> Cooperators: ECOS	<ul style="list-style-type: none"> Beta test PRIMR Deploy centralized PRIMR Design and develop training material Deliver at least two training sessions.
SD 7.1	Species database module	<ul style="list-style-type: none"> Chartered a working group to initiate evaluation of existing systems and design requirements. 	<ul style="list-style-type: none"> Complete evaluation of existing systems. Finalize design requirements Initiate design and development of a prototype.
DM 1.1 DM 1.2	ServCat full-scale implementation	<ul style="list-style-type: none"> Successful completion of ServCat pilot Deployed centralized web ServCat with over 7,000 priority records Annual narratives identified as a priority resource for upload into ServCat <ul style="list-style-type: none"> Created detailed spreadsheet of location of refuge annual narratives to serve as a finder guide – R4 lead. Document is stored in ServCat. Regions 2 and 8 initiated full-scale implementation 	<ul style="list-style-type: none"> Develop national guidelines and establish minimum requirements for ServCat records. Identify priority documents that will be a focus during regional ServCat data mining efforts. Upload at least 50% of the annual narratives located in the National Archives. Continue full-scale implementation – Regions 2, 4, and 8.
DM 2.1 DM 2.2 DM 2.3	ServCat technical support and data management	<ul style="list-style-type: none"> Developed and delivered technical support documents to Regional Data Managers. 	<ul style="list-style-type: none"> Data Managers will perform periodic data quality assessments and generate customized reports.
DM 3.1	PRIMR full-scale implementation	<ul style="list-style-type: none"> Conducted assessments of Phase 1 data to inform development of web version. Developed process to pre-populate web PRIMR with the Phase 1 data. 	<ul style="list-style-type: none"> 50% of stations will enter survey information into PRIMR. (Note – the back-end load will account for some of this). 51 out of 67 refuges in R1 will have surveys entered into PRIMR. Data Managers will perform periodic data quality assessments and generate customized reports.
ISIM 1.1	Development of an early-detection inventory and monitoring process for the Refuge System	<ul style="list-style-type: none"> National effort will begin in FY13; see following sections Regions 8 and 2 regional accomplishments. 	<ul style="list-style-type: none"> Invasive Species –IM working group will design a basic framework for an early-detection inventory and monitoring process for invasive plants.

7-Year Plan Task	Task Description	FY 2012 Accomplishments	FY 2013 Work Plan
National I&M Priorities			
ISIM 2.1 ISIM 3.1	Assessment and implementation of I&M Invasive Species Pilot project	<ul style="list-style-type: none"> Completed prioritization and training workshops on one refuge in four regions: Regions 4, 5, 6, and 8. Utilized data collected to map invasive plants and support predictive modeling effort of invasive plant distributions. Initiated pilot efforts in Regions 1 and 3. <hr/> Cooperators: National Institute of Invasive Species Science at Colorado State University	<ul style="list-style-type: none"> Evaluate the results of the pilot efforts that will include an assessment of the prioritization process and predictive modeling results. Develop guidance for conducting invasive plant inventories based on the pilot results.
ESARR 1.3 ESARR 2.1	Development and validation of a list of endangered, threatened, delisted/monitored, and candidate species that could have occurred on refuges	<ul style="list-style-type: none"> Developed a list of current, historic, and restored ESA species for each refuge from published sources, the narrative lists in ECOS, and refuge Cooperative Conservation Plans. The ESA reporting system is fully integrated with the ECOS Threatened and Endangered Species System (TESS). <hr/> Cooperators: FWS ES	<ul style="list-style-type: none"> All refuges will validate the established list of current, historic, and restored ESA species. All refuges will report which listed ESA species are currently being monitored.
VHM 1.1 VHM 1.2 VHM2.1	Provide national and regional summaries of vegetation resources on refuge land using existing data.	<ul style="list-style-type: none"> Conducted a survey in collaboration with GAC to determine what vegetation datasets were available on refuges. 	<ul style="list-style-type: none"> Develop regional and national summaries of vegetation maps and data currently available on refuge lands and where gaps exist. Where appropriate, create ServCat records so the data are accessible and discoverable. Develop guidance for acquiring and/or developing vegetative cover datasets.
AD 1.1 AD 1.2 AD 2.1 AD 2.2	Provide field stations and regional staff with essential abiotic data; beginning with those fields identified in Fulfilling the Promise – WH8.1	<ul style="list-style-type: none"> Data gaps in the nationally available data sets have been identified. Process for distribution has been developed. 	<ul style="list-style-type: none"> Provide instruction to Data Managers and field stations on how to acquire the data. Develop a process to deliver data to field stations that lack the capacity to acquire the data independently. Identify, prioritize and estimate costs for obtaining additional abiotic data not identified in WH8.1.
AD 3.1	Support development of abiotic enterprise datasets.	<ul style="list-style-type: none"> Task begins in FY13. 	<ul style="list-style-type: none"> Develop geospatial data standards for the datasets.
BIM 1.0 BIM 1.2	Establish standardized, integrated and coordinated bird monitoring across the Service	<ul style="list-style-type: none"> Chartered the Bird Team that includes membership from Migratory Birds and other partners. <hr/> Cooperators: Migratory Birds, PIF	<ul style="list-style-type: none"> Bird Team meets on a monthly basis.

7-Year Plan Task	Task Description	FY 2012 Accomplishments	FY 2013 Work Plan
National I&M Priorities			
BIM 2.1 BIM 2.2	Produce national and/or regional protocol frameworks that facilitate standardized bird inventory and monitoring across the Service	<ul style="list-style-type: none"> Initiated a pilot using the landbird and marshbird protocols. 	<ul style="list-style-type: none"> Complete the marshbird and landbird protocol frameworks. Identify, prioritize, and develop an implementation strategy to produce protocol frameworks for other bird communities.
BIM 3.1	Ensure avian inventory and monitoring data collected on refuges is shared with AKN	<ul style="list-style-type: none"> Contractor was hired to QA the landbird data in preparation for sharing with AKN. 	<ul style="list-style-type: none"> Develop a process to facilitate import of scrubbed landbird and marshbird data into AKN. Develop a process for managing and sharing IWMM data with AKN.
BBI 1.1 BBI 1.2 BBI 1.3	Initiate the process to create a species database for the Refuge System.	<ul style="list-style-type: none"> Created a project work plan for the newly Chartered Inventories Team. 	<ul style="list-style-type: none"> Identify, evaluate and prioritize the sources of existing species observation data. Identify a process for populating the species data information system. Create a bird list from the sources previously identified in preparation for input and validation.
PM 1.1 PM 1.2 PM 1.3	Provide recommendations on how phenological information collected on refuge lands can be used to inform management.	<ul style="list-style-type: none"> Conducted a phenological survey to determine: what phenologic data is being collected, what % of phenologic data is collected by citizens, has the data been analyzed, where is it stored, and has it been used in refuge management. Developed skeleton framework for the FWS web page on USA-NPN. 	<ul style="list-style-type: none"> Analyze and report the data collected from the phenological survey. Fully implement the FWS landing page on the NPN website. Develop relevant data management tools to assist refuge staff with data entry, export, and production of summary statistics for reports.
WCM 1.1	Develop, assess and quantify measures of wilderness character on all refuges	<ul style="list-style-type: none"> Conducted wilderness training in 6 regions. Wilderness Fellows developed, assessed, and quantified measures of wilderness character on 19 refuges as follows: <ul style="list-style-type: none"> Region 2 = 2, Region 3 = 7, Region 4 = 5, Region 5 = 2, Region 6 = 2, and Region 7 = 1. 	<ul style="list-style-type: none"> We will train Wilderness Fellows to develop, assess, and quantify measures of wilderness character as follows: <ul style="list-style-type: none"> Complete 2 stations in R3. Complete 2 refuges in R5. Complete 6 stations in R7.
SSM 1.2	Support the surrogate species selection and implementation process	<ul style="list-style-type: none"> The I&M Team provided input into the surrogate species guidance document. I&M had an active role in writing the document and providing material for the training workshops. 	<ul style="list-style-type: none"> By the end of FY13, I&M staff will integrate the surrogate species monitoring with IMPs that will be started FY13 (see EIP 1.4 for a list regions and stations)
FM 1.1 FM 1.2	In collaboration with Fire Team, generate fire fuel treatment atlas (fire atlas) for priority refuges	<ul style="list-style-type: none"> NRPC update on work with Fire Team (need input staff) 	<ul style="list-style-type: none"> NRPC staff will work with the Fire Team to evaluate the current process used to generate the fire history atlases. NRPC staff will work with the Fire Team to identify and prioritize refuges that will most benefit from a fire history atlas.

7-Year Plan Task	Task Description	FY 2012 Accomplishments	FY 2013 Work Plan
National I&M Priorities			
MDM 1.1	Provide baseline biotic and abiotic data needed to proactively evaluate potential impacts on refuges	<ul style="list-style-type: none"> • NRPC I&M staff collaborated with the Oil and Gas initiative to complete the Oil and Gas data acquisition and analysis. 	<ul style="list-style-type: none"> • The I&M team will work with refuge staff to validate the data compiled for the Oil and Gas data information system. Regions 2, 3, 6, and 7 will participate.

Table 4. Detailed summary of cross-regional I&M accomplishments for FY 2012 and projects to be initiated in FY 2013 by 7-Year Plan focus groups. This section represents collaborative efforts across several regions that are not currently a national priority. AD – Abiotic Data, AQB – Air Quality Biomonitoring, BBI – Baseline Biotic Inventories, BIM – Bird Inventory and Monitoring, DM – Data Management, EIP – Ecological Information Planning, ESARR – Endangered Species Act Refuge Reporting, FM – Fire Monitoring, ISIM – Invasive Species Inventory and Monitoring, MM – Marine Monitoring, PM – Phenological Monitoring, RCA – Refuge Conditions Assessment, RRP – Regional Refuge Portfolio, SLRM – Sea Level Rise Modeling, SSM – Surrogate Species Monitoring, SD – System Development, VHM - Vegetation and Habitat Mapping, WRIM – Water Resources Inventory and Monitoring, WCM – Wilderness Character Monitoring, WH – Wildlife Health

7-Year Plan Task	Task Description	FY 2012 Accomplishments	FY 2013 Work Plan
Cross-regional I&M Initiatives			
BBI	Bat monitoring, especially focused on monitoring for white-nose bat syndrome.	<ul style="list-style-type: none"> I&M Bat SharePoint site added to R5 DOIConnect Bat Monitoring site as a place for multiple regions to collaborate. Regions 1, 2, 3, 4, and 5 are collaborating. <hr/> Cooperators: USGS, NPS, FS	<ul style="list-style-type: none"> Adoption of USGS, NPS, and FS bat acoustical inventory protocol where appropriate. (R5= lead)
BIM	Development of a grassland bird monitoring framework.	<ul style="list-style-type: none"> R6 I&M coordinated and co-lead, with FWS Migratory Birds, a multi-program, multi-agency team to develop a framework for landscape scale grassland bird monitoring. R3 and R4 participating. <hr/> Cooperators: Chicago Botanic Garden, USGS, The Nature Conservancy, National Bobwhite Conservation Initiative, Rocky Mountain Bird Observatory, East Gulf Coastal Plain JV, Wisconsin DNR, Midwest Coordinated Bird Monitoring Partnership, Upper Midwest Environmental Sciences Center, NCTC	<ul style="list-style-type: none"> Regions 3, 4, and 6 (lead) continue collaboration with partners (PPP LCC) to refine the framework and to pilot the framework for bird and prairie habitat monitoring in LCC or a smaller ecoregional area, as part of surrogate species selection process and implementation of SHC. Creating a model grassland birds will be considered
BIM	Monitoring waterbirds that migrate along the Atlantic and Mississippi Flyways: Integrated Waterbirds Management and Monitoring (IWMM)	<ul style="list-style-type: none"> Continued pilot monitoring in Regions 3, 4, & 5. Held briefing for ARD's to plan transition from pilot to permanent funding. Cooperating refuges: 10 stations in R3, 7 stations in R4 and 15 stations in R5. IWMM participants observed 9,859,821 waterbirds from fall 2010 through spring 2012. Of these observations, 8,941,699 were waterfowl, 758,838 were shorebirds, and 159,284 were waders. <hr/> Cooperators: Migratory Birds, Joint Ventures, states, USGS, Chicago Botanical Society	<ul style="list-style-type: none"> Continue dialog with ARD's to transition from pilot to permanent funding. Establish an organizational 'home' for the project. Fund and develop a central database Revise protocols. Continue Science Coordinator term position. Hire an Administrative Coordinator to oversee all aspects of the project and handle contracts and planning. Publish model descriptions and establish the relevance of the project to managers.

7-Year Plan Task	Task Description	FY 2012 Accomplishments	FY 2013 Work Plan
Cross-regional I&M Initiatives			
EIP	Collaborate cross-programmatically within the Service and with LCCs and other partners to develop framework to identify conservation priorities and science needs and communication pathways, internally and externally	<ul style="list-style-type: none"> • Cross-regional team that included Regional I&M, Biological Resource staff and ARDs met in FY11 to develop a framework to identify conservation priorities and science needs and communication pathways. <ul style="list-style-type: none"> ◦ Completed report and framework recommendation. ◦ Extended collaboration to include I&M Team 	<ul style="list-style-type: none"> • I&M Team will continue the dialogue to obtain support from the OSA and regional directorates to pilot the framework in various regions. (R6 = lead)
VHM	Vegetation (submergent aquatic vegetation) monitoring.	<ul style="list-style-type: none"> • Regions 1 and 6 collaborated with partners and agencies to work on bioenergetics models and their relationship to SAV objectives and monitoring <hr/> Cooperators: Intermountain West JV, USGS	<ul style="list-style-type: none"> • Continue to collaborate with this on-going project. (R6 = lead)
AM 1.1	Adaptive Management: Native Prairie Adaptive Management Project (NPAM)	<ul style="list-style-type: none"> • Regions 3 and 6 collaborating on an this effort. <ul style="list-style-type: none"> ◦ Adaptive management research phase is completed and moving to iterative monitoring phase. ◦ 2 stations in R3, 18 stations in R6. <hr/> Cooperators: USGS, Chicago Botanic Gardens	<ul style="list-style-type: none"> • Continue Adaptive Management Iterative phase. • Connect database to model on Sharepoint. • Issue management recommendations to stations on time. • Open project to new cooperators.
AM 1.1	Adaptive Management: Reed Canary Grass Adaptive Management Project	<ul style="list-style-type: none"> • Regions 3 and 6 collaborating on this effort. <ul style="list-style-type: none"> ◦ Adaptive management research phase is completed and moving to iterative monitoring phase. ◦ 6 stations in R3, 3 stations in R6. <hr/> Cooperators: USGS, Chicago Botanic Gardens	<ul style="list-style-type: none"> • Continue Adaptive Management Iterative phase • Connect database to model on Sharepoint. • Issue management recommendations to stations on time. • Open project to new cooperators.
AM 1.1	Adaptive Management: Cattail Adaptive Management Project	<ul style="list-style-type: none"> • Regions 3 and 5 collaborating on this effort. <ul style="list-style-type: none"> ◦ Adaptive management research phase is completed and moving to iterative monitoring phase. ◦ 4 stations in R3, 1station in R5. <hr/> Cooperators: USGS, State of New York	<ul style="list-style-type: none"> • Need to determine available staff time to support the operational phase.
AM 1.1	Adaptive Management: Integration of Multiple Data Sources	<ul style="list-style-type: none"> • NA 	<ul style="list-style-type: none"> • Conduct a workshop to initiate development of a decision support tool that will be used to integrate multiple data sources. Regions 3 and 5 participating.

7-Year Plan Task	Task Description	FY 2012 Accomplishments	FY 2013 Work Plan
Cross-regional I&M Initiatives			
SLR	Coastal Sea Level Rise Modeling: measurement of saltmarsh elevation change	<ul style="list-style-type: none"> Regions 2, 4, and 5 are collaborating on this effort. Sediment Elevation Tables (SETs) installed salt marsh areas that will be used to measure salt marsh elevation changes. R4 installed 60 stations R2 initiated plan and acquired equipment R5 organized SET database webinar with NPS National Capitol and Southeast Networks to give demonstrations of their different SET data collection systems. <hr/> Cooperators: USGS, NPS, NOAA, LA Department of Environmental Quality	<ul style="list-style-type: none"> On the Gulf Coast R2 and R4 will complete installation and training for the SET instrumentation R2 and R4 will develop the data management plan for data collection across the Gulf Coast With other I&M data managers, investigate developing SharePoint interface for storage of SET data. Installation of 30 SETs monitoring in R2 on Texas and Louisian refuges.